DETAILED ACTION

Allowable Subject Matter

1. Claims 1-5, 7-12 & 14-17 are allowed.

2. The following are examiner's statement of reasons for allowance:

Referring to claim 1, the Jenkins et al reference (US Patent 5,917,917) discloses an apparatus for reconstructing a high frequency part of a first signal (*col. 7, lines 41-50*). The Oki et al reference (US Patent 4,972,489) discloses a band-pass filter (*Oki et al, fig. 5: 12a & 12b; col. 3, lines 12-26*); and an adder (*Oki et al, fig. 5: 14*). The Jenkins et al and Oki et al references taken alone or in combination, do not disclose, teach or fairly suggest an apparatus for reconstructing a high frequency part comprising a frequency inverter; a converter and the detailed circuit interconnection among these as recited by independent claim. The aspects as summarized above are neither anticipated nor obvious by the prior arts of record.

Claim 8 is allowed for the same reason as claim 1.

Claims 2-4 & 17 depend on claim 1. Claims 9-11 & 15 depend on claim 8.

Referring to claim 5, the Jenkins et al reference (US Patent 5,917,917) discloses an apparatus for reconstructing a high frequency part of a first signal (*col. 7, lines 41-50*). The Jenkins et al reference taken alone or in combination, does not disclose, teach or fairly suggest an apparatus comprising: a first generator which generates a cosine signal; a first multiplier which multiplies an input signal by the cosine signal to generate a first multiplied signal; a first low-pass filter which low-pass filters the first multiplied

signal to generate a first low-pass filtered signal; and a second multiplier which multiplies the first low-pass filtered signal by the cosine signal to generate a second multiplied signal; a second generator which generates a sine signal; a third multiplier which multiplies the input signal by the sine signal to generate a third multiplied signal; a second low-pass filter which low-pass filters the third multiplied signal to generate a second low-pass filtered signal; a third generator; a fourth multiplier which multiplies the second low-pass filtered signal by the negative sine signal to generate a fourth multiplied signal; a summation unit which sums the second multiplied signal obtained by the second multiplier and the fourth multiplied signal obtained by the fourth multiplier to generate a summed signal; and an adder which adds the summed signal to the input signal as recited in claim 5.

Claim 12 is allowed for the same reason as claim 5.

Claim 7 depends on claim 5. Claims 14 & 16 depend on claim 12.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEORGE C. MONIKANG whose telephone number is

(571)270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George C Monikang/ 4/25/2008
Examiner, Art Unit 2615

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2615